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**CENTRAL INTELLIGENCE AGENCY**

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## NEW LOCOMOTIVES BUILT, REPAIR METHODS IMPROVED

NEW LOCOMOTIVES INTRODUCED -- Gudok, No 25, 26 Feb 50

Since the end of the war a group of designers, headed by L. S. Lebedyan-  
skiy, of the Kolomna Plant imeni Kuybyshev has completed its project, begun  
during the war, on a steam freight locomotive having a 2-10-0 wheel arrange-  
ment. The object of the project was to make the locomotive more serviceable  
and resistant to wear and to guarantee its large-scale serial production on  
the basis of interplant cooperation. The Kolomna designers were awarded a  
Stalin Prize for their efforts. The series L locomotive, a considerable num-  
ber of which have gone into service, is everywhere gaining a good reputation.

In designing a steam locomotive with a high tractive force, locomotive-building plants have proposed three variants, all of which have been put into practice. The machines are different in design but satisfy the same operational requirements. All three of the experimental locomotives are now undergoing tests, and the most efficient design will be chosen not on the basis of design and theoretical conclusions, but after complete testing of the models in practice.

The Kolomna Plant has designed an articulated steam locomotive having a weight on each driving axle of about 19 tons.

The Voroshilovgrad Plant imeni Otktyabr'skaya revolyutsiya is working on an original technical solution of the problem of reducing the dynamic augment. The first locomotive in the world to be equipped with a machine with diverging pistons (raskhodyashchiysya porshen').

The third variant is a 2-10-4 steam freight locomotive built by the Ulan-Ude plant.

This year a highly efficient steam locomotive designed by Academician S. P. Syromyatnikov will be built.

- 1 -

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In the postwar period serial production of the improved series Su steam passenger locomotive was begun. The Su is equipped with "elephant ear" smoke deflectors. Industry is also producing models of a 4-8-4 passenger locomotive designed in the Kolomna Plant by order of the Ministry of Transportation.

Serial production of an improved electric locomotive, the VL-22m, having a weight on axle of 22 tons, has been set up. The capacity of the VL-22m is 117 percent of that of the VL-22 electric locomotives produced earlier.

Since 1946 three new types of Diesel locomotives have been designed: TE-1, TE-5, and TE-2. The TE-1 went into serial production in 1947. Two models of the closed-body type TE-5 were produced in 1948 for regions where the winter is especially severe. Also in 1948, the TE-2, an articulated locomotive of doubled capacity, was built for lines with high traffic density and sections with difficult grades.

KHARKOV PLANT PRODUCES NEW DIESEL -- Ogonek, No 6, Feb 50

The Kharkov Transport Machine-Building Plant has produced a Diesel locomotive of new design, Model TE-2.

DIESEL, ELECTRIC LOCOMOTIVE OUTPUT UP -- Gudok, No 34, 19 Mar 50

The production of Diesel locomotives and electric locomotives in 1949 considerably exceeded in quantity the output of locomotives of these types during the 6 prewar years.

At present tests of steam freight locomotives of three new types built in 1949 designed by Lebedyanskiy, Sharoyko, and Anikeyev are being conducted on the railroad systems of the USSR network. Also, a new powerful passenger steam locomotive essentially differing in design from the series Su locomotive has been built.

Along with the creation of new types of locomotives, Su, SO, and L locomotives are being modernized. The series Su locomotive, with an improved steam distribution mechanism, uses 5 percent less fuel than usual. Using the heat from gases given off has resulted in a fuel saving of about 8 percent for the modernized series SO locomotive.

ELECTRIC LOCOMOTIVES EQUATED TO STEAM UNITS -- Gudok, No 23, 22 Feb 50

One electric locomotive in operation replaces 2-2 $\frac{1}{2}$  steam locomotives of a powerful series, and one rail motor car train consisting of one rail motor car and two motor car train cars replaces 1  $\frac{1}{3}$  locomotives and 13 ordinary suburban-service type passenger cars.

KIEV DEPOT REPAIRS LOCOMOTIVES -- Gudok, No 14, 1 Feb 50

The Kiev Depot imeni Andreyev is a repair base for passenger locomotives of the whole Southwestern Railroad Okrug. The depot at present has about 20 hoist cranes, including bridge cranes, a slewing crane, and telfers. Hoisting of heavy weights is mechanized in the overhaul shop, the washing shop, the machine shop, the electrical shop, and the wheel yard. At present all operations for dismantling and assembling locomotives are mechanized.

- 2 -

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As is known, interchangeability of parts is important for accelerating repair. In overhaul, wheel pairs with journals and suspended springs, spring hangers, equalizers, spring plates (ressornaya nakladka) and braces (skoba), the side rod mechanism, slide valves with rings, injectors and boiler valves, and tender trucks are not repaired, but replaced. In washing repair, slide valve rings, universal crank pins, injector and boiler valves, and also many small parts are replaced. Because of the supply of interchangeable parts, overhaul of a series Su locomotive can often be completed in 2 days.

Overhaul of locomotive Su 214-30 was completed in 2 days. At the preceding washing repair a preliminary technical schedule was compiled. In this were included, along with the usual overhaul operations, such operations as welding cracks and installing reinforcing braces on the frame at the forward journal guide of the driving axle, replacement of the right slide valve bearing adjustment of the left slide valve bearing, adjustment of the right cylinder, replacement of the piston rod of the right cylinder and the center sill of the tender truck. The following assemblies were prepared in advance for the locomotive: wheel pairs with fitted journal bearings; suspended springs and assembled side rod mechanism; truck axles with journals and parts of the centering device; equalizers with prisms and equalizer blades (nozh); spring hangers with plates; right piston rod with crosshead, machined bushings and piston rod rings; injectors and boiler valves; two side rod bearings; two fully assembled tender trucks.

The locomotive spent 10 hours in the washing pen, 33 hours in the overhaul shop, and 3 hours in the firing-up pen, for a total layover of 46 hours.

In firing up locomotives, the depot uses liquid gas to ignite the coal in the firebox, and also an axial ventilator, made in the depot, to create an artificial draft. The firing up takes 80-90 minutes. The difference between the cost of firewood and the cost of gas alone saves the depot 8,000 rubles per year. Fireless firing up is also done. The depot shunting locomotive serves as a source of hot water, and an injector has been installed to super-heat the water further.

High-speed overhaul has become a practice of the depot. At present the depot is preparing to introduce high-speed overhaul for series S locomotives.

During 1949 locomotive overhaul took an average of 84.7 hours and washing took an average of 13.4 hours. This is considerably less than the established norms. In 1949 the average run for locomotives between overhauls was 104,779 kilometers.

#### CHROME-PLATING SHOP IN KIEV DEPOT -- Gudok, No 5, 11 Jan 50

Workers of the repair shops of the Kiev Passenger Depot imeni Andreyev have pledged to put a chrome-plating shop into operation by 12 March. The shop will chrome plate equipment for all passenger locomotives of the railroad systems of the Southwestern Railroad Okrug.

#### KOLOMNA PLANT TO IMPROVE METAL SHOPS -- Moskovskaya Pravda, No 38, 4 Apr 50

An organizational technical plan, basically directed toward increasing the work of metallurgical shops, has been worked out for the Kolomna Plant imeni V. V. Kuybyshev. Thirty percent of all allocations for capital expenditures during 1950 will be spent on reconstructing these shops.

- 3 -

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